# TNGLIMITED



The Next Major Development in the Northern Territory, Australia



<sup>⋑</sup>ASX Spotlight Conference <sup>■</sup>May 2015

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#### Competent Person's Statement

#### **JORC 2004**

The information in this report that relates to Exploration Results and Exploration Targets is based on information compiled by Paul Burton who is a Member of The Australasian Institute of Mining and Metallurgy and a Director of TNG Limited. Paul Burton has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Paul Burton consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Mineral Resources included in the 2012 PFS and is based is based on information compiled by Lynn Olssen who is a Member of The Australasian Institute of Mining and Metallurgy and a full time employee of Snowden Mining

Industry Consultants Pty Ltd. Lynn Olssen has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Lynn Olssen consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Financial Analysis is based on information compiled by Jeremy Peters who is a Member of The Australasian Institute of Mining and Metallurgy and a full time employee of Snowden Mining Industry Consultants Pty Ltd. Jeremy Peters has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Jeremy Peters consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Mr Damian Connelly, FAAusIMM, Chartered Processional (MET), tMMICA, MSME, MSAIMM was responsible for the preparation of the metallurgical test work results reported herein. Mr Connelly has sufficient experience to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of the Exploration Results, Mineral Resources and Ore Reserves. Mr Connelly consents to the inclusion in the report of the matters based on his information in the form and context in which is appears.

#### **JORC 2012**

The information in this report that relates to 2013 Mineral Resource Upgrade for the Mount Peake project is based on and fairly represents, information and supporting documentation compiled by Lynn Olssen who is a Member of The Australasian Institute of Mining and Metallurgy and a full time employee of Snowden Mining Industry Consultants Pty Ltd. Lynn Olssen has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Lynn Olssen consents to the inclusion in the report of the matters based on his information in the form and context in which it appears

The information in this report that relates to Exploration Results and Exploration Targets for Mount Peake and Mt Hardy projects are based on information compiled by Exploration Manager Mr Kim Grey B.Sc. and M. Econ. Geol. Mr Grey is also a member of the Australian Institute of Geoscientists and a full time employee of TNG Limited. Mr Grey has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Grey consents to the inclusion in the report of the matters based on his information in the form and context in which it appear.

# **TNG Projects, Northern Territory, Australia**



# **TNG Corporate Overview**

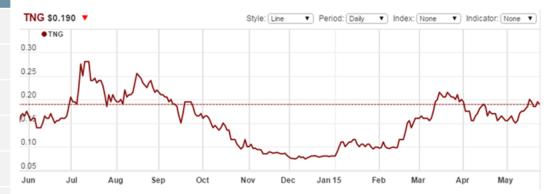
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Major Shareholders	
WWB Investments P/L	9.87%
Ao-Zhong International Mineral Resources	9.5%
Aosu Investment & Development Co	8.6%
(Directors along with their related companies hold approximately 14% of issued capital)	

Board of Directors	
Michael Evans	Acting Chairman
Paul Burton	Managing Director
Stuart Crow	Non-executive Director
Rex Turkington	Non-executive Director
Jianrong Xu	Non-executive Director
Zhigang Wang	Non-executive Director

Key Corporate and Financial Data	
ASX code:	TNG
Market capitalization (at 19c):	\$120 M
*Shares on issue:	655M
*Cash:	\$6.2M
Auditors: KPMG Lawyers: Clifford Chance	

\*Post capital raise 25 May 2015

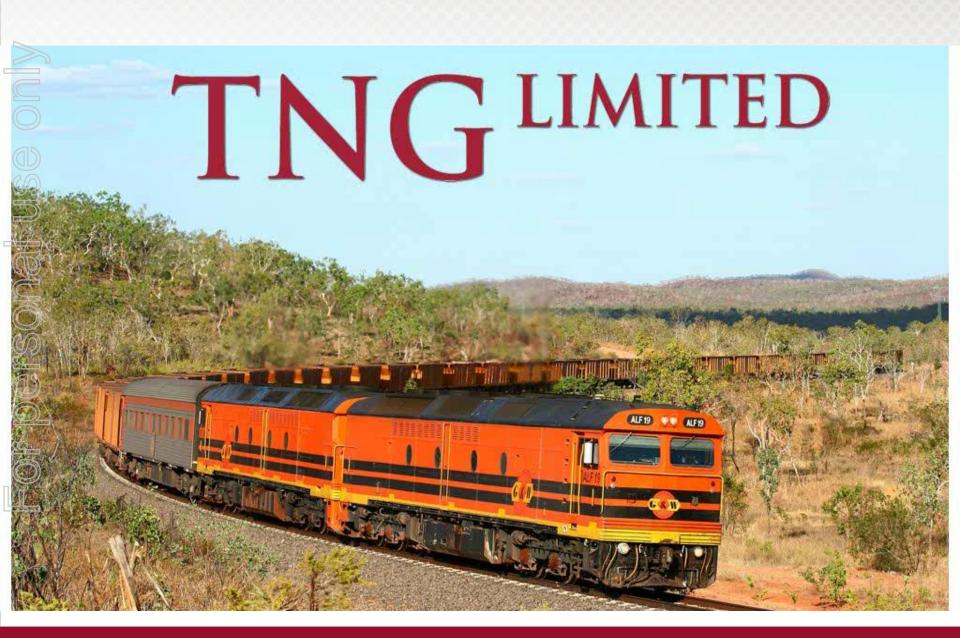


## The Next Major Development in the NT

#### Mount Peake: A low risk high value strategic metals project

- Northern Territory excellent jurisdiction for resource projects
- After INPEX : Mount Peake the next likely major NT project
- Awarded Major Project status by NT Government
- Close to existing infrastructure Road, Rail Gas
- Smart Mining: Extract maximum value by producing 3 product streams –V205, Ti02, Fe203
- Pre-Feasibility: 20 year Mine Life; IRR 38% NPV A\$13.6B
- Government and Traditional Owners support development
- Water source located; No environmental impediments
- Feasibility Study underway due for completion in June 2015
- Development decision July 2015

# **Mount Peake**



### **Mount Peake Ore**

#### Host Rock - Vanadiferous Titanomagnetite

Highly amenable to magnetic separation at low intensities

Ore competency amenable to chemical process

Capable of producing three product streams through TIVAN hydrometallurgical process

SMART MINING the key to the future

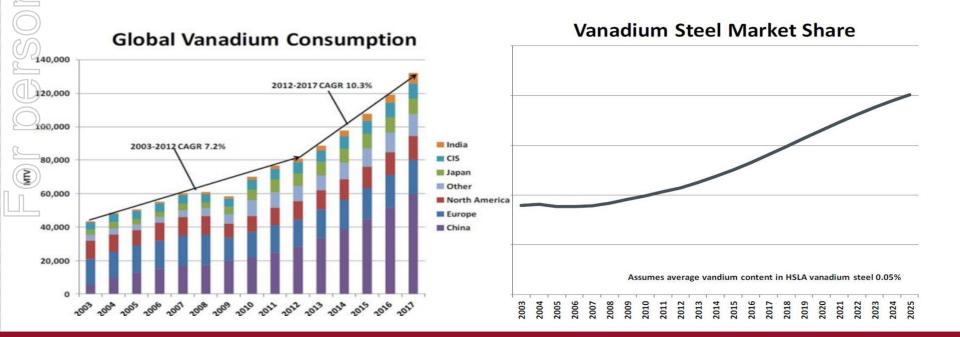
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### **Mount Peake Project - Vanadium**

#### Vanadium - increasing demand for structural steel and high tech devices

- Growth forecast to be 4% to 7% pa until 2021.
- Chinese vanadium consumption forecast to increase to 45% of world demand by 2016.
- Mount Peake's high purity flake expect a premium price
- Electrical storage cell production and high specification alloys.
- Current Price of V<sub>2</sub>O<sub>5</sub> approx. expected to double by 2017

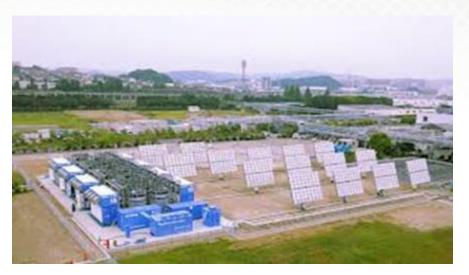


## **Mount Peake Project - Vanadium**

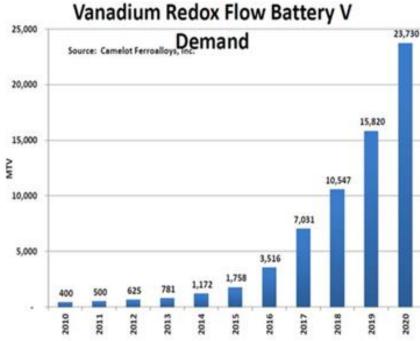
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#### Vanadium - The future concept for Energy Storage







## **Mount Peake Project - Titanium**

DEFSONA

#### Titanium dioxide - increasing demand from China

- Market is currently focussed on China (around 50% of the world market)
- Chinese demand growing at 8% pa,
- White goods, most daily commodities
- Other applications (not currently in the market) include solar energy and water purification.
- Mount Peake to produce good quality TiO<sub>2</sub>
- Potential to enhance this pigment-quality TiO<sub>2</sub> powder.

## **Mount Peake Project - Iron**

#### **High purity iron oxides = high-value markets**

Mount Peake product 99.9% pure

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- Product should draw a premium price
- Target market pigment, high spec steel, coatings,
- Globally, expect average market growth of 3.5% to 4% over the next 5 years.

## **Metallurgical Achievements: TIVAN**

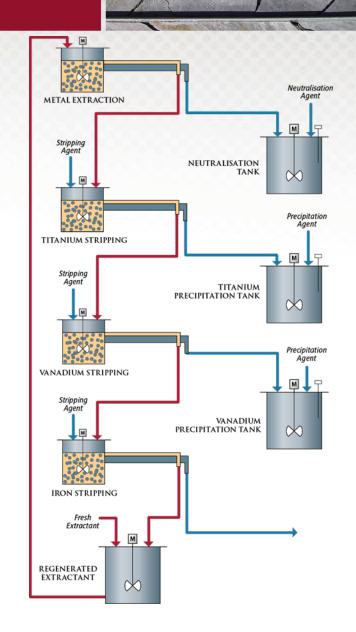
#### **TIVAN PROCESS**

- Bulk magnetic separation > 90% vanadium recovery
- Lower CAPEX

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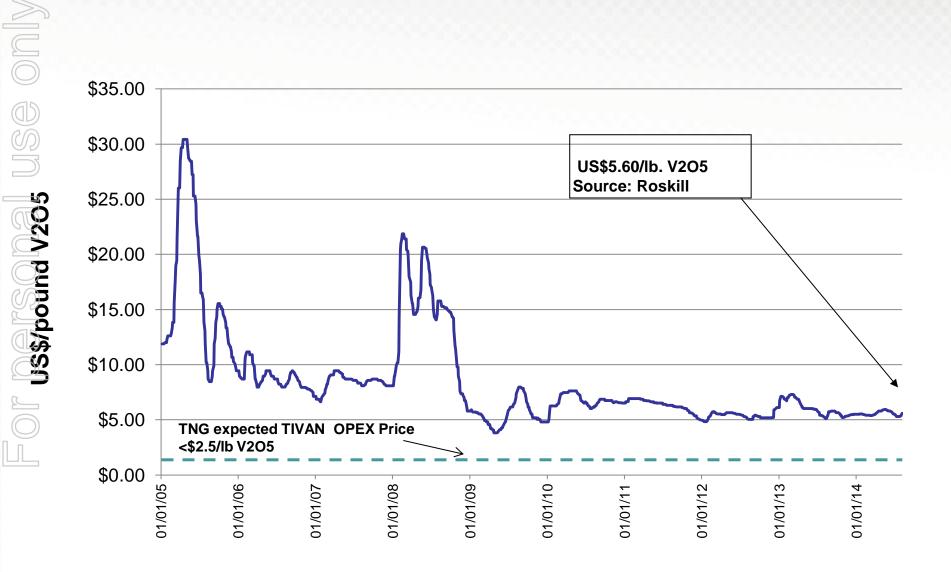
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- Bulk TiVAN leaching for 3 product seperation
- Leach and SX Process well understood
- Potential to further refine Ti02 to pigment grade will significantly value add



# **TIVAN's Operating Cost**

HISTORICAL V205 PRICE AND TNG's FORECAST PRODUCTION COST



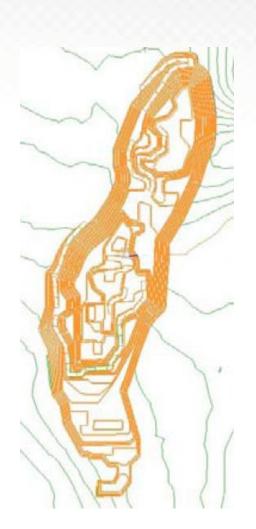
## **Mount Peake Project – Mine Plan**

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Proven mining strategies and innovative processing design

ROM	2.5 Mtpa, increasing to 5 Mtpa by year 5
Process route	TIVAN™ hydrometallurgical process
Waste mined	72 Mt
Ore production	76 Mt
Average head grade	0.39% V <sub>2</sub> O <sub>5</sub> , 27.09% Fe, 7.02% TiO <sub>2</sub>
Average recoveries	>90% V <sub>2</sub> O <sub>5</sub> , 80% Fe, 67% TiO <sub>2</sub>
Total metal production	245 kt V <sub>2</sub> O <sub>5</sub> , 20,246 kt Fe, 6,495 kt TiO <sub>2</sub>
Mine life	17.2 years
Strip ratio	0.95

Supporting data in Appendix. Refer ASX announcements 12/7/2012, 6/2/2013, 9/9/2013 and 19/9/13.



## **Mount Peake Project: Key Metrics**

Mine life: 20 years

Total revenue (LOM): A\$13.6 billion

NPV: A\$2.6 billion

Net annual cash flow: A\$339M

IRR Pre-tax: 38%

CAPEX: \$ 560M AUD

Production to commence 2017

2012 Exchange rate: USD\$1:AUD\$1

Annual Production (at 5Mt / annum)

11,000T  $V_2O_5$ 

290,000T TiO<sub>2</sub>

900,000T Fe<sub>2</sub>0<sub>3</sub>.

Metal Purity	
$V_2O_5$	99%
TiO <sub>2</sub>	55%
$Fe_2O_3$	99.9%

Total Metal Production	Tonnes
$V_2O_5$	236,000
TiO <sub>2</sub>	5,822,000
Fe <sub>2</sub> O <sub>3</sub>	17,400,000

Definitive Feasibility Study in progress

Supporting data in Appendix. Refer ASX announcements 12/7/2012, 6/2/2013, 9/9/2013 and 19/9/13.

# **Mount Peake Project – Development Partners**



- HYUNDAI STEEL Investment potential post FS
- POSCO E&C EPMC
- SMS SEIMAG

#### Offtake Agreements

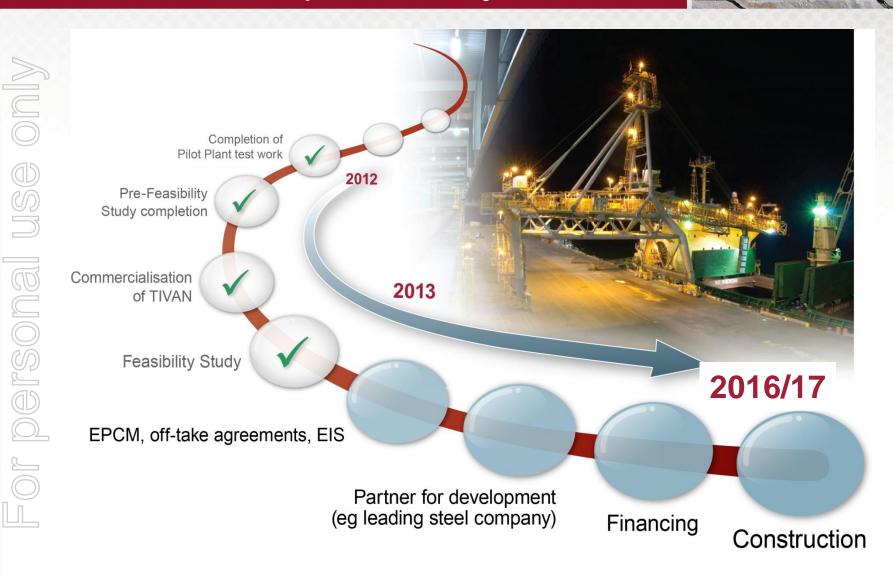
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- WOOJIN METALS (Korea) V205
- Gunvor (Singapore) Fe203
- Global Pacific Partners TiO2

#### Mine <u>Development</u>

- Snowden Mining Consultants Mine Design
- McMahon Services Mine and Infrastructure design and construction

# **Mount Peake Development Pathway**



## **TNG** and the NT Government

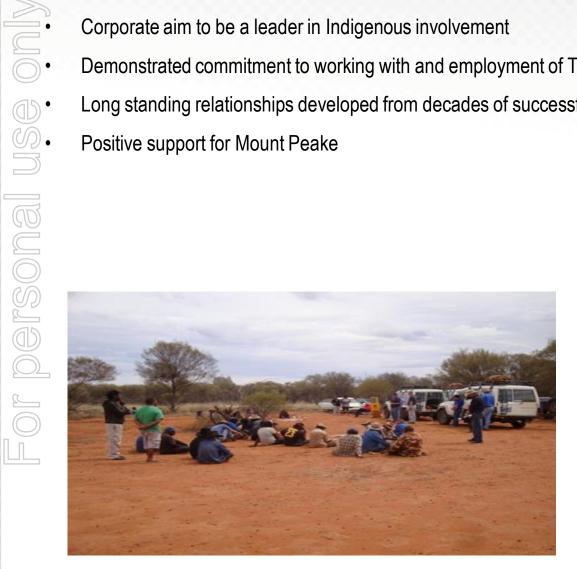
- NT Government Actively pro-Resource Development
- Major Project status awarded to Mount Peake
- Excellent Geological and infrastructure support
- ase only Darwin – North Australia's development Hub
  - Rapidly developing region





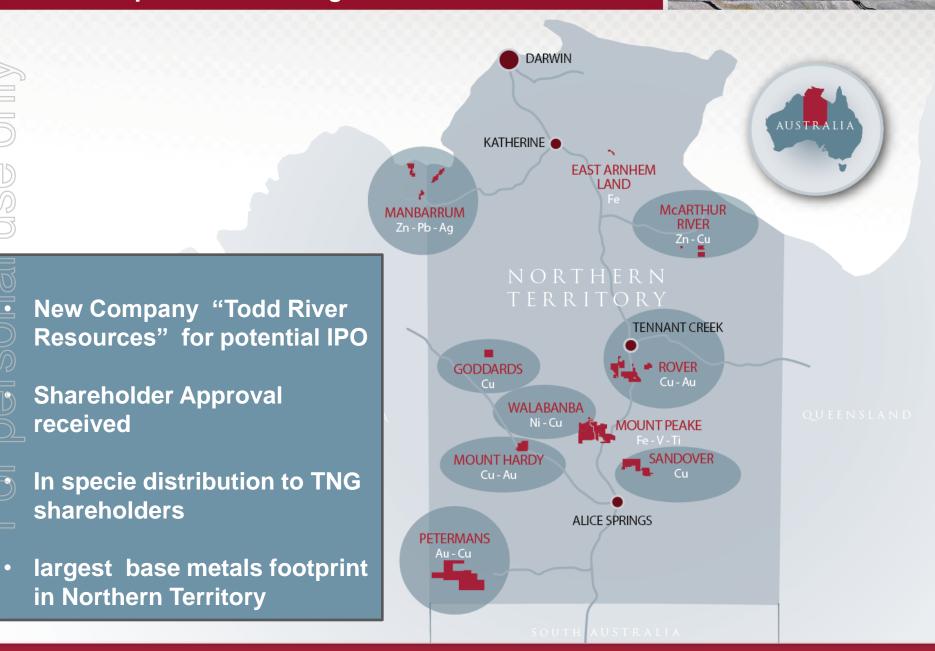
#### **TNG and Traditional Owners**

- Corporate aim to be a leader in Indigenous involvement
- Demonstrated commitment to working with and employment of Traditional Owners
- Long standing relationships developed from decades of successful exploration on Indigenous Land
- Positive support for Mount Peake





## **TNG Corporate: Demerge Base Metal assets**



### **TNG**

#### **Investment Summary**

- Developing the next Major Project in NT
- Vanadium and Titanium products poised for growth
- Exceptional project economics
- Production targeted for 2017
- Tier 1 development partners
- Huge upside to resource potential
- Mineral-asset rich project portfolio
- Quality base metal projects to add shareholder value with demerger

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**ASX: TNG** 

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# THANK YOU

**Paul Burton – Managing Director** 

# **Appendix – Supporting Data**

#### **Mineral Resources and Exploration Targets:**

The Pre-Feasibility Study (PFS) is based on the updated Indicated and Inferred Resource for Mount Peake published on 12 October 2011 of 160Mt @ 0.3% V2O5, 5% TiO2 and 23% Fe (Indicated 110Mt @ 0.29% V2O5, 5.3% TiO2 and 23% Fe; Inferred 48Mt @ 0.24% V2O5, 4.5% TiO2 and 21% Fe). The Pre-Feasibility assumptions the financial model is based on mining 75.9 Mt of the 160 Mt Mineral Resource Of this amount 204% is from the Inferred Mineral Resource category. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target tself will be realised.

In addition to this resource, TNG has published an Exploration Target of 500-700Mt grading 0.2-0.4% V2O5 and 25-35% Fe. The potential quantity and grade is conceptual in nature, there has been insufficient exploration to define a Mineral Resource and that it is uncertainif further exploration will result in the determination of a Mineral Resource.(refer ASX announcement 24/9/2013)

#### **Pre-Feasibility Study:**

Reference to the PFS is to the ASX announcement 9 July 2012, which was prepared based on the Company's presently delineated mineral resource estimate. Any investment decision should be considered based on this information. Full details of the Mount Peake Pre-Feasibility Study are available in the Company's ASX Announcements 9 July 2012 and 19 September 2013. Mining is based on the PFS financial analysis which includes 20.4% of Inferred Resource material (there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised).

#### Key assumptions of 2012 PFS include:

- Operating costs and pit slope angles related to mining estimated to a Pre-Feasibility Study level (±25%)
- V<sub>2</sub>O<sub>5</sub> price of US\$20,305/tonne (> 90% grade)
- TiO<sub>2</sub> price of US\$400/tonne (> 55% grade)
- Fe<sub>2</sub>O<sub>3</sub> price of US\$200/tonne (> 69% grade)
- Royalty rate of 2.5% per tonne of plant feed
- Discount rate of 8%
- AUD\$/US\$ exchange rate of 1 US\$ = 1AUD\$

#### **Nett Annual Cash Flow:**

Is defined as the average discounted cash flow per annum after all CAPEX (pre-strip CAPEX, initial CAPEX, and expansion CAPEX) has been deducted, but ignores cost or source of capital, hedging, tax, depreciation, rehabilitation and salvage.